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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,415	04/21/2004	Takahiro Amanai	061069-0309334	4519

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EXAMINER
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HARRINGTON, ALICIA M

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/828,415	<b>Applicant(s)</b> AMANAI, TAKAHIRO	
	<b>Examiner</b> Alicia M. Harrington	<b>Art Unit</b> 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-16 is/are allowed.
- 6) ☒ Claim(s) 1,3,5,10 is/are rejected.
- 7) ☒ Claim(s) 2,4,6-9 and 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1,3,and 10 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tetsuya et al (US 5,434,711).

Regarding claim 1, Tetsuya discloses an imaging optical system comprising (see abstract): in order from an object side (see figure 21 and Tables 16 and 17), a first lens having positive refracting power (R3, R4);  
a second lens having negative refracting power (R5, R6), a concave surface of which is directed toward the object side,  
a third lens having positive refracting power (R7, R8), a convex surface of which is directed toward an image side, and

a fourth lens having negative refracting power (R8, R9), wherein the second lens and the third lens are cemented together, wherein at least one surface of the fourth lens is an aspherical surface (see table 16 and 17)

Regarding claim 10, Tetsuya includes the lens system in a camera.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Aoki (US 5,272,566).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Aoki discloses an imaging optical system comprising (see abstract):  
in order from an object side (see figure 3 and Tables 4), a first lens having positive  
refracting power (R3, R4);

a second lens having negative refracting power (R5, R6), a concave surface of which is  
directed toward the object side,

a third lens having positive refracting power (R7, R8), a convex surface of which is  
directed toward an image side, and

a fourth lens having negative refracting power (R14, R15), wherein the second lens and  
the third lens are cemented together, wherein at least one surface of the fourth lens is  
an aspherical surface (see example 4)

Regarding claim 10, Aoki includes the lens system in a camera.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed  
or described as set forth in section 102 of this title, if the differences between the  
subject matter sought to be patented and the prior art are such that the subject  
matter as a whole would have been obvious at the time the invention was made  
to a person having ordinary skill in the art to which said subject matter pertains.  
Patentability shall not be negated by the manner in which the invention was  
made.

7. Claims 3,5 are rejected under 35 U.S.C. 103(a) as being unpatentable over  
Tetsuya (US 5,434,711) in view of Saito (US 6,584,282).

Regarding claim 3, Tetsuya discloses an imaging optical system comprising:

in order from an object side, a first lens having positive refracting power (R3, R4), a second lens (R5, R6) having negative refracting power, a concave surface of which is directed toward the object side, a third lens (R6, R7) having positive refracting power, a convex surface of which is directed toward an image side and a fourth lens (R8, R9) having negative refracting power, wherein the second lens and the third lens are cemented. However, Tetsuya fails to specifically disclose wherein the first lens consists of glass.

In the same field of endeavor, Saito discloses that include a glass lens in an imaging system is beneficial because plastic lens imaging characteristics change according to temperature fluctuations (see col. 3, lines 30-45). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a first lens consisting of glass, since plastic undergoes greater linear expansions and changes in refractive index according the temperature and glass will help to prevent imaging aberrations or mis-focus.

Regarding claim 5, see table 16 and 17.

***Allowable Subject Matter***

8. Claims 14-16 are allowed.
9. Claims 2,4,6-9,11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 4 and 14, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include wherein the claimed conditioned is satisfied.

Regarding claims 8 and 15, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include wherein the composite focal length of the cemented lens consisting of the first, the second and the third lens,  $f_4$  represents the focal length of the fourth lens, and  $f$  represents the focal length of the whole optical system satisfying the claimed condition.

Regarding claim 11 and 16, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include where the  $F_{no}$  represents the F-number fully opened and  $P$  represents the pitch of imaging element satisfying the claimed condition.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Harrington whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571 272 2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AMH

Alicia M Harrington  
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